

Beta TSWS_Review Program



**US Army Corps
of Engineers®**

The CADD/GIS Technology Center for Facilities, Infrastructure, and Environment

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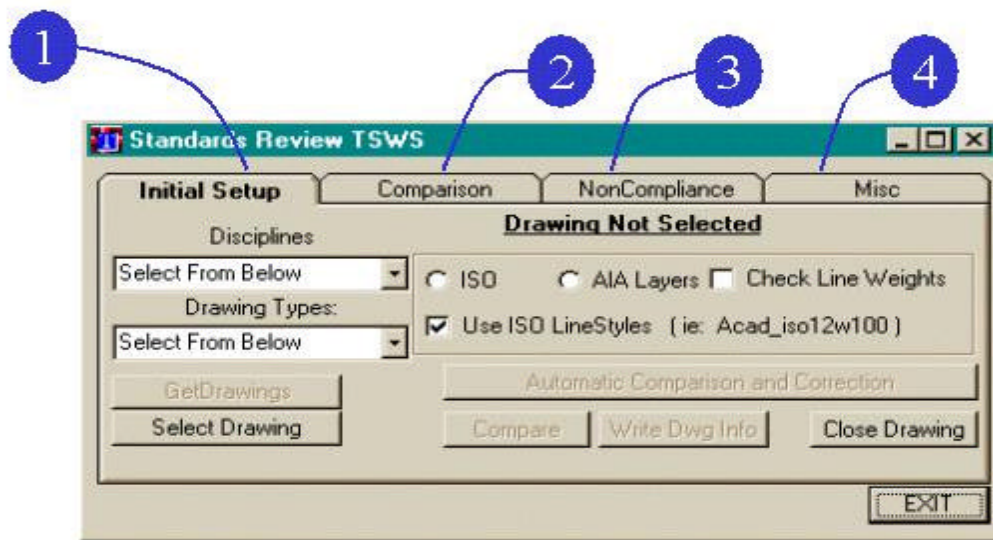
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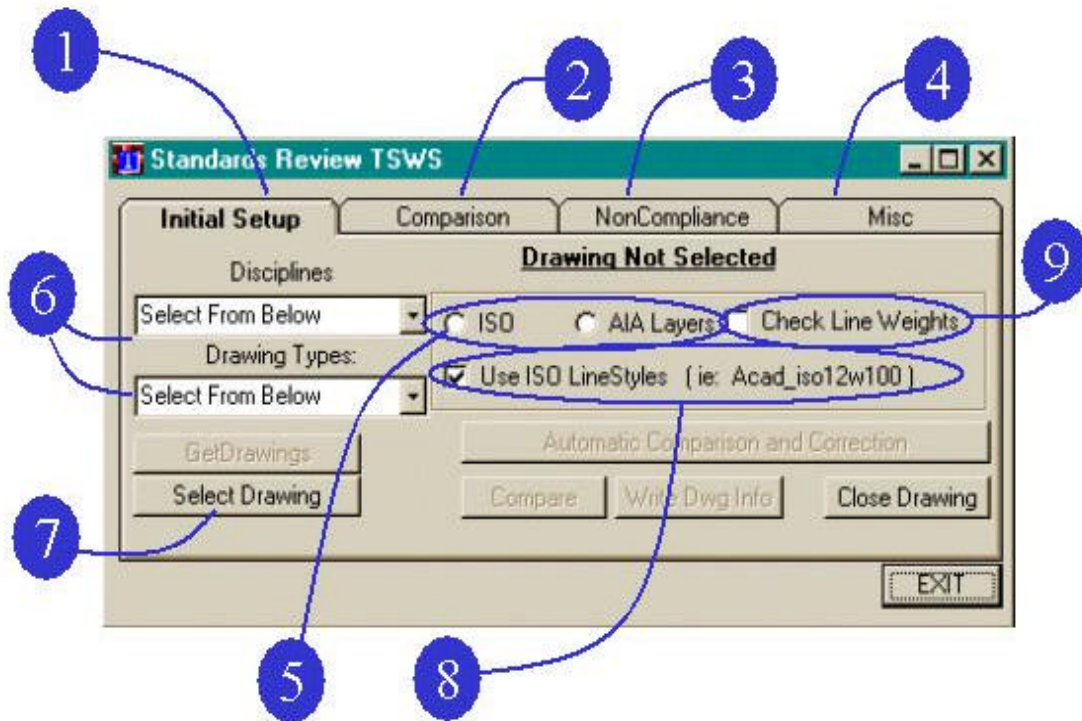
MAIN DIALOG BOX: Initial Tab Selections



Initial Standards Reviewer dialog box has four Tabs that are used during the process of reviewing a drawing.

1. **TAB 1 Initial:** The first Tab contains the setup information that is necessary to prepare the drawing and standards for review. This is the main tab to allow loading or unloading a drawing for review, and giving the Standards requirements concerning the Discipline and the Drawing Type and the Layer naming configuration. A selection can also be made for checking the Line Weight.
2. **TAB 2 Comparison:** After setting the correct drawing information required for **Tab 1**, executing the **Compare** button, the second Tab moves to the front after having compared the drawing to the standards. The **Tab 2** Form allows the user to make individual changes to the drawing Layer properties and Entities that are not compatible with the Standards.
3. **TAB 3 NonCompliance:** This Tab is automatically brought forward after selecting from the first Dropdown list in Tab 2, below the caption "List Of Layers With Not Found in Standards". The individual Layers and Entities not conforming to the standards may be reviewed and changed as well. A display box shows the Layer or Entity settings as well the Standards values.
4. **TAB 4 Misc:** The last tab contains the generator for extracting the **tsw.txt** information from the Access database containing the standards information.

MAIN DIALOG BOX: Initial



Initial Standards Reviewer dialog box has four Tabs that are used during the process of reviewing a drawing.

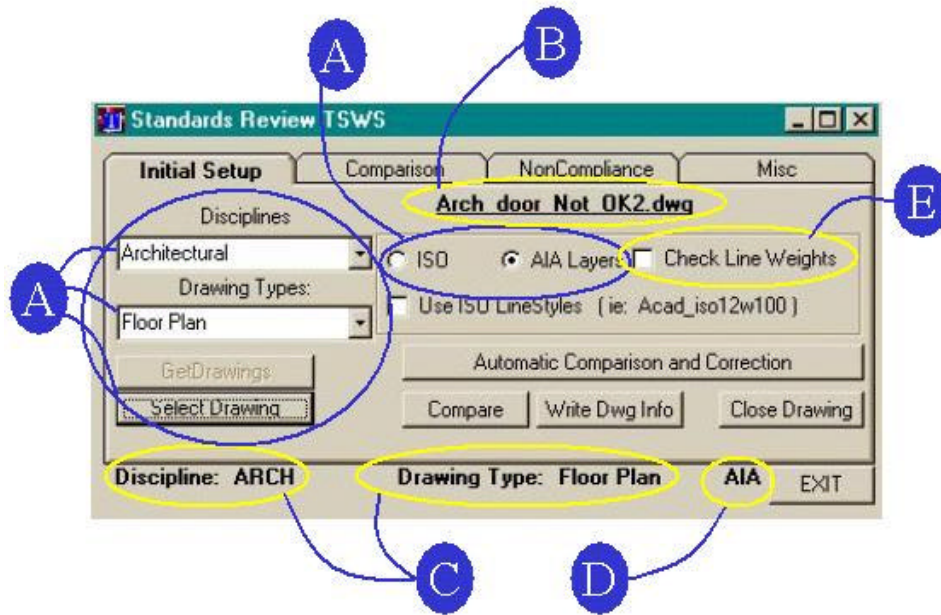
1. **TAB 1 Initial:** The first Tab contains the setup information that is necessary to prepare the drawing and standards for review. This is the main tab to allow loading or unloading a drawing for review, and giving the Standards requirements concerning the Discipline and the Drawing Type and the Layer naming configuration. A selection can also be made for checking the Line Weight.
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4. **TAB 4 Misc:** The last tab contains the generator for extracting the **tsw.txt** information from the Access database containing the standards information. Information can be added/changed in the database and running the generator will produce a modified file to as the basis for the review program. The file is saved as **tsw.txt** and is always saved to the users application directory.

NOTE: The MicroSoft Access database is a separate file that can be downloaded from http://tsc.wes.army.mil/TSWS_Acad . The Database is not required for running the standards review program.

NOTE: All of the following selections need to be made before a drawing can be reviewed.

- 5.** The Standards allow for either **AIA** or **ISO Layer** Names, and this selection must be made before continuing.
- 6.** The Disciplines and the Drawing Type will need to be selected before reviewing the drawing against the standards. Because the standards restrict certain Layers for a specific Drawing type, the review will be for a specific drawing type.
- 7.** The select drawing button allows the user to browse for a document to review. If the document is already loaded in AutoCADD, then the document will be brought up as the current drawing.
- 8.** The select drawing button allows the user to review the document Linestyles for the **Acad_iso...** line styles. For More Information on this, refer to **"LineStyle Settings and the Standards"**
- 9.** This is a check Box that is only available when reviewing documents using AutoCAD 2000 or later. When checked, the Reviewer will check the line weights with the standards information and include this information in the review. The Default of this button is unchecked, therefore to check line weights, this option button will need to be selected.

MAIN DIALOG BOX: Drawing Selected



Process for Preparing to Review a Drawing

A. Discipline & Drawing Type Selection, Drawing Selection, AIA/ISO Selection :

- The CADD standards are based upon the specific type of discipline and drawing selected. These must be first selected before a drawing can be reviewed.
- The Select drawing button allows the user to browse for a drawing to be reviewed. If an AutoCAD drawing is already loaded, then the drawing will be brought to the front of the AutoCAD group of drawings.
- NOTE: The drawing must be selected through the browser (activated by the "**Select Drawing**" button); it will not select a drawing from the current stack of drawings, but it will not reload a duplicate drawing. It first checks to see if the drawing is loaded before opening a new editing session of the selected drawing.
- There is a choice between using the standards, and this will determine the Layer naming convention used to compare drawings. The standard convention is the **AIA Layers** for most documents.

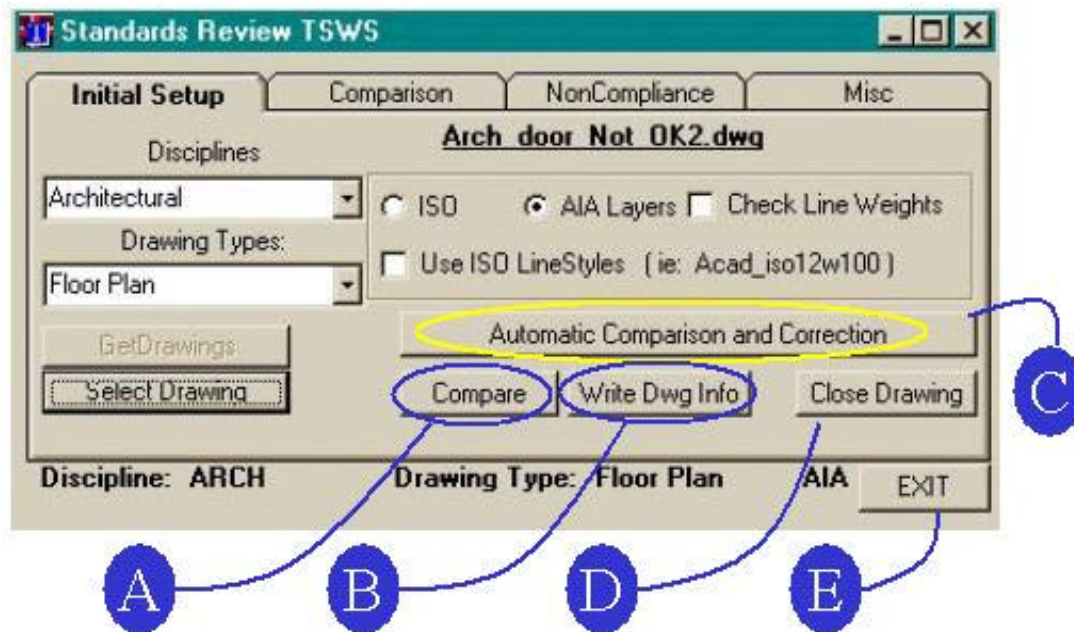
B. Selected Drawing Name : When a drawing is selected, this Label will show the selected drawing name that is being reviewed.

C. Selected Discipline and Drawing Type : These labels display the selected Drawing type and Discipline that the drawing review is based upon.

D. Selected AIA/ISO Layer naming convention : Displays the current selection for the Layer name review. Selecting the incorrect one will cause Layer names not to be recognized as belonging to the current standards.

E. Check Line Weights : If AutoCad 14 is being used, this check box is disabled. If Version 2000 or higher is used, then this button is enabled with a default of OFF. Checking this Box will allow the Review program to review the all Line Weight settings according to the Standards.

MAIN DIALOG BOX - TAB 1 : Review Execution Buttons

**REVIEW:** Running the Reviewer Program Against Selected Drawing

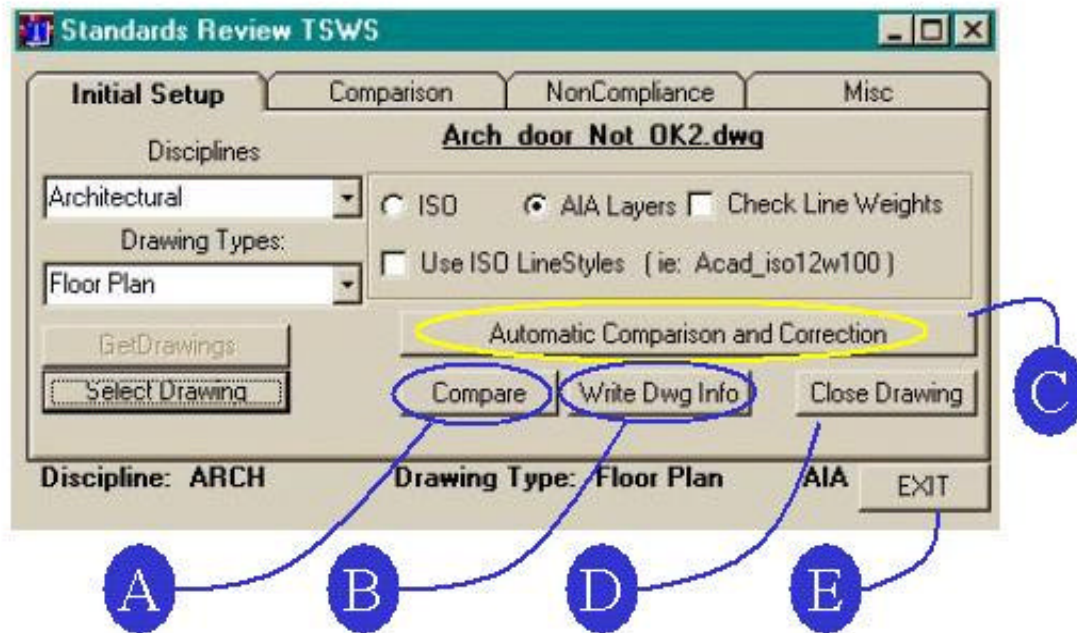
Execution of the Review program: The Reviewer will extract all Layer and entity information on the drawing, and then applies an internal filter. The filter causes the program to ignore Layer "0", all Layers that are currently turned off or are frozen and all layers that are from XREF files. XRef files must be checked in their original drawing.

After the review is complete, three potential groups of information are produced:

- Layers that have a Layer name that matches the standards, but does not have all the correct properties: Line Type, Line Color and if selected Line Weight.
- Entities that have the Layer name according to the standards, but do not have all properties listed as "ByLayer" or do not have all properties that match the CADD standards.
- Layers found that do not match the list for the standards based upon Discipline and Drawing Type.
- **Note:** A Layer may be from the CADD standards with all the correct properties, however if it is not designated for that specific Drawing Type, it will be picked up as a "Not In Compliance" Layer Name.

A. Compare : The function of this button executes the review program and produces a manually editable set of information. After the Review, the second Tab (Comparison) is automatically brought forward, allowing the user to make individual selections for changes to Layers and Entities.

B. Write DWG Info : This button executes the review program and produces a list of Incorrect Layer and entity properties and sends these to an excel spreadsheet. A list of Layers found that do not match those in the standards is also created. See spreadsheet Report Information below.

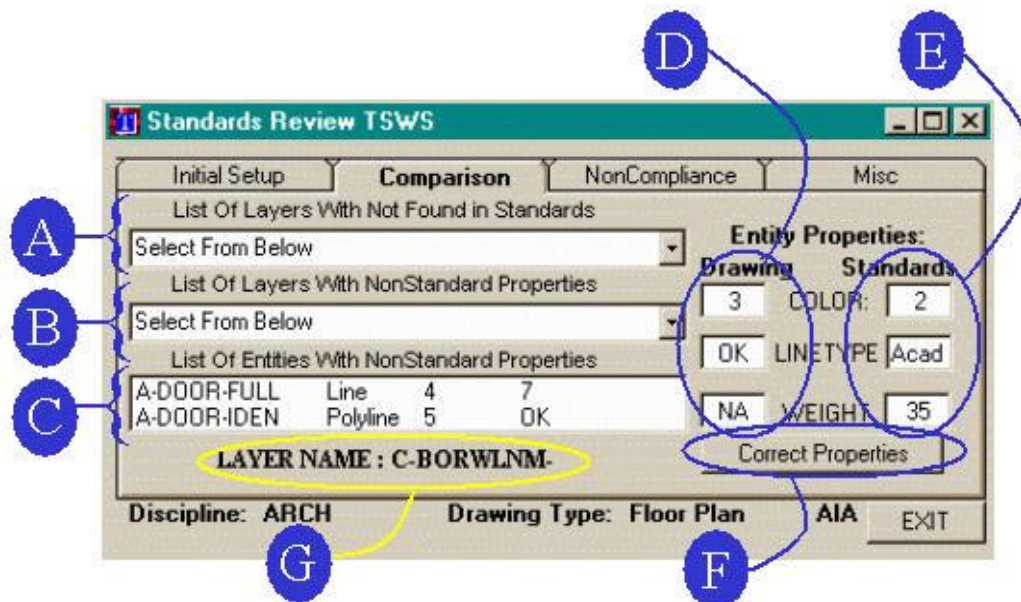
**REVIEW:** Continued

C. Automatic Comparison and Correction : This button executes the review program and automatically produces changes to all Layers and Entities that have properties that are not according to the standards. A form listing changed items is displayed after making changes to the drawing layer and entity properties. No changes are made to those Layers that do not have a Layer name that is in the standards (based on Discipline and Drawing Type).

D. Close Drawing : This allows AutoCAD version 2000 and higher to close the current drawing. An option is displayed for saving the drawing before closing.

E. Exit : Closes the Reviewer program.

MAIN DIALOG BOX - TAB 2 : Comparison Results



Manually Making Corrections

A. List of Layer Names Found for Which there is No Associated Standards Layer Name :

This Dropdown List is composed of all the Layers that do not match the standards Layer names (dependent upon the Layer naming convention (AIA/ISO) and the Discipline and the Drawing Type). To change one of the Layer names and properties to one of the standards Layer names, select one of these Layers from the dropdown box.

B. List of Layers that Match Standards but have properties that do not comply with the standards :

This section shows all the Layers that do not match the Standards properties. Unless the Line Weight Box is checked on Tab 1, the Line Weights are not compared against the standards. To select a Layer to change properties, **double click** the Layer Name in the dropdown box. Change to the Standards properties by selecting the "Correct Properties" button to the left.

C. List of Entities Found for Which all properties are not by "ByLayer" and have properties that do not match the Standards Layer Name :

This section shows all the Entities that do not have all properties "ByLayer" and do not match the Standards properties. Unless the Line Weight Box is checked on **Tab 1**, the Line Weights are not compared against the standards. To select a Layer to change properties, **double click** the Layer Name in the dropdown box. Change entity to the Standards properties by selecting the "Correct Properties" button to the left.

ENTITY/LAYER PROPERTIES Section

D. This column shows the drawing properties for the selected Layer or Entity :

When a Layer or an entity is selected from the Lists for Layer or Entity ("B" or "C" above), the properties of the actual Entity or Layer in the drawing appear in this column.

E. This column shows the Standards Layer or Entity property:

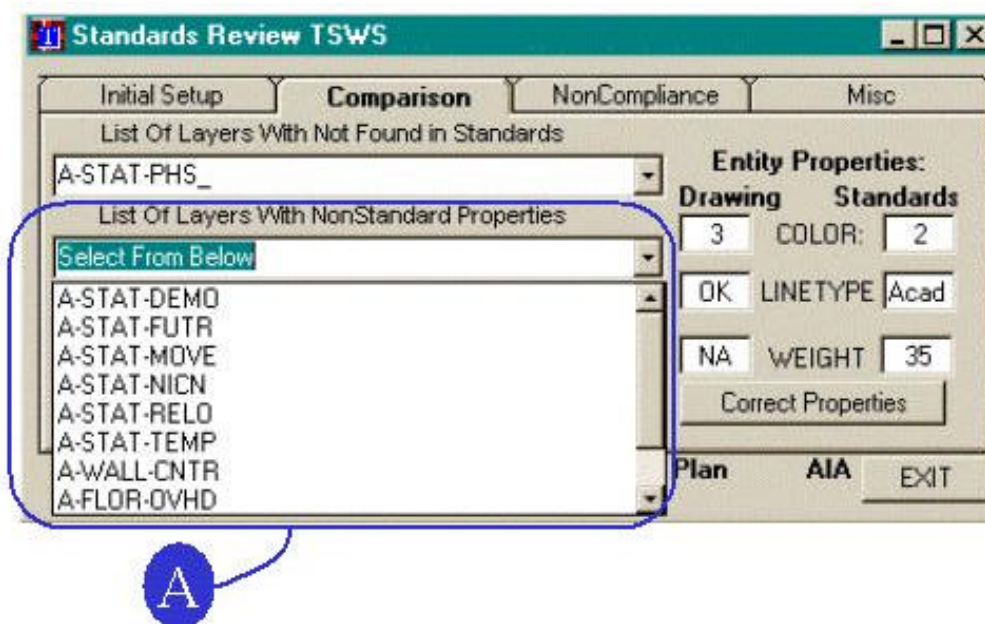
When a Layer or an entity is selected from the Lists for Layer or Entity ("B" or "C" above), the properties of the Layer Standards appears in this column

CHANGE Button

F. The "Correct Properties" button : After an Entity or a Layer is selected from the Entity or Layer DropDown box ("B" or "C" above) selecting this button will change the Drawing properties for that Entity or Layer.

G. Current Layer Name : Displays the current Layer Name Layer.

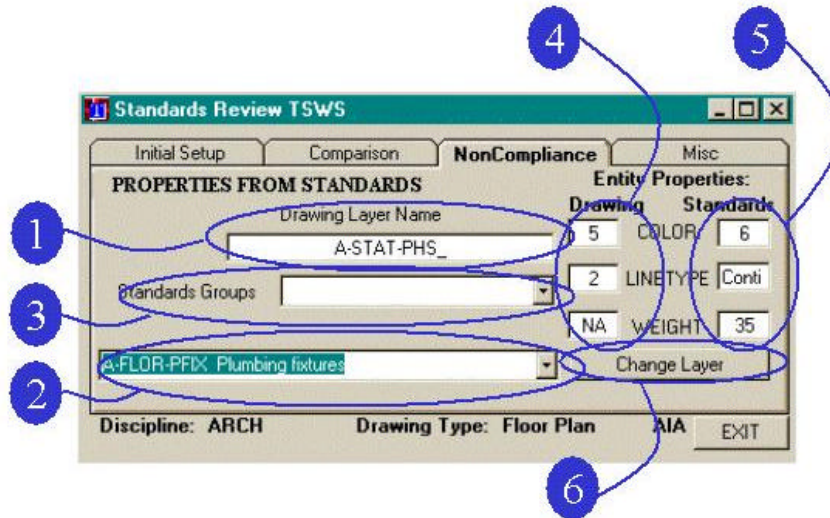
MAIN DIALOG BOX - TAB 2 : Layer Correction Dropdown List



DropDown Menu Shown for Selecting Layer To Change Properties

A. List of Layer A dropdown menu will show any Layer names for which there are incorrect properties set according to the standards.

MAIN DIALOG BOX - TAB 3 : Non Compliance



Change Existing Layer Name and properties for a new Standards Layer Name and properties:

1. List of Layer Shows the Layer Name selected from Tab 1 under the Label " List of Layer Names Found for Which there is No Associated Standards Layer Name " This is the Layer that does not match the standards Layer Names.
2. List of Layer A dropdown menu will show all the Standards Layer names from the Standards based upon the Discipline and Drawing Type selected.
3. List of Layer In order to make locating the correct Standards Layer Name, this dropdown menu shows Groups that will be used to Filter the list of Layers (shown in number "2") For example, you could use select "windows" or "doors" to get a list of Layer names that show only the window or door Layer names in the bottom list.

ENTITY/LAYER PROPERTIES Section

4. **This column shows the drawing properties for the selected Layer :** When a Layer is selected from the Not In Compliance List for Layers on Tab2, the properties of the actual Layer in the drawing appear in this column.
5. **This column shows the Standards Layer or Entity property:** When a Layer is selected from the Not In Compliance List for Layers on Tab2, the properties of the Layer Standards appears in this column.

CHANGE Button

6. The "Correct Properties" button : After a Layer is selected from the Layer DropDown box ("B" or "C" above) selecting this button will attempt to rename selected Layer Name with a selected Standards Layer Name (selected from the list below), and the Layer properties will be set according to the standards for that Layer.

- When a Standards Layer is selected, the current drawing is checked to find if this Layer Name already exists. If it does, then the existing layer name is not changed.
- If this situation occurs, the User will need to move all elements from the nonstandard Layer to the correct standards layer. It is a future consideration to have this done automatically for the user.

Report Information

Number of Layers Changed : 10 Number of Entities Changed : 2

Entities : A-DOOR-FULL	A-DOOR-FULL	A-DOORFUM-	Ent Color: 4	Standards Color: 6	Ent Linetype: 7	Standards Linetype: Cont
Entities : A-DOOR-IDEN	A-DOOR-IDEN	A-DOORIDM-	Ent Color: 5	Standards Color: 3	Ent Linetype: OK	Standards Linetype: Cont
LAYERS : A-STAT-DEMO	A-STAT-DEMO	A-----M-D	Ent Color: OK	Standards Color: 6	Ent Linetype: 2	Standards Linetype: Acad
LAYERS : A-STAT-FUTR	A-STAT-FUTR	A-----M-F Ent Color: OK	Standards Color: 2	Ent Linetype: 7	Standards Linetype: Acad_iso10w10	
LAYERS : A-STAT-MOVE	A-STAT-MOVE	A-----M-M Ent Color: OK	Standards Color: 6	Ent Linetype: 6	Standards Linetype: Acad_iso12w10	
LAYERS : A-STAT-NICN	A-STAT-NICN	A-----M-X Ent Color: OK	Standards Color: 8	Ent Linetype: 3	Standards Linetype: Acad_iso3w10	
LAYERS : A-STAT-RELO	A-STAT-RELO	A-----M-R Ent Color: OK	Standards Color: 5	Ent Linetype: 2	Standards Linetype: Acad_iso2w10	
LAYERS : A-STAT-TEMP	A-STAT-TEMP	A-----M-T Ent Color: OK	Standards Color: 4	Ent Linetype: 4	Standards Linetype: Acad_iso10w10	
LAYERS : A-WALL-ONTR	A-WALL-ONTR	A-WALLONM-	Ent Color: OK	Standards Color: 5	Ent Linetype: 7	Standards Linetype: Acad
LAYERS : A-FLOOR-OVHD	A-FLOOR-OVHD	A-FLOOROVM-	Ent Color: OK	Standards Color: 8	Ent Linetype: 2	Standards Linetype: Acad
LAYERS : A-COLS-ENCL	A-COLS-ENCL	A-COLSENM-	Ent Color: 7	Standards Color: 4	Ent Linetype: OK	Standards Linetype: Cont

Back

The above form lists the Layers and the Entities that were changed in the Drawing during the Automatic correction process. In this process, the Layers that do not have corresponding layer names from the Standards are not checked.

CORRECTION REPORT: Excel Spread Sheet List of Non Compliant Entities

Microsoft Excel - Sheet1

File Edit View Insert Format Tools Data Window Help

Arial 10 B I U

P1

	C	D	E	F	G	H	I
1							
2	DRAWING NAME:		Arch_door_Not_OK2_14.dwg				
3	DRAWING PATH:		L:\Tsws_ACAD\TWS_Checker\DWG_Test				
4	DISCIPLINE:		ARCH				
5	DRAWING TYPE:		Floor Plan				
6	Date Drawing Checked:		8/22/01				
7	Layer Naming Convention:		AIA				
8	OADD Version:		14				
9							
10							
11							
12	Layer Name	Standards Color	Standards LineType	Standards Weight			
13	A-STAT-DEMO	5	Continuous	NA			
14	A-STAT-FUTR	5	Continuous	NA			
15	A-STAT-MOVE	5	Continuous	NA			
16	A-STAT-NICN	5	Continuous	NA			
17	A-STAT-RELO	5	Continuous	NA			
18	A-STAT-TEMP	5	Continuous	NA			
19	A-WALL-CNTR	5	Continuous	NA			
20	A-FLOR-OVHD	5	Continuous	NA			
21	A-COLS-ENCL	5	Continuous	NA			
22	A-ANNO-NPLT	5	Continuous	NA			
23							
24							
25	Layer Name						
26	A-STAT-PHS						
27							
28							
29							
30	Layer Name	Standards Color	Standards LineType	Standards Weight	Entity Type	Handle	ObjectID
31	A-DOOR-FULL	6	Continuous	35	Line	8C	96405344
32	A-DOOR-IDEN	3	Continuous	25	Polyline	8F	96405368
33							

1

The Excel Report created by the program after a review of the CADD Document:

1. This information includes the Drawing Name and Path when the drawing was checked as well as the information on what Layer Naming Convention and Discipline and Drawing Types were used when they were reviewed. The drawing version and date are also included.
2. This list the drawing layers that had the same name as a Layer from the Standards but one of their properties was not according to the standards. If the drawing was from version 14 or if the Check Line weights Box was not checked, the Standards Weight section is marked as "NA".
3. The middle section lists any Layers it found that are not listed in the standards. Layers not currently OFF, Frozen or from XREF drawing files or the Layer 0 are filtered out and not checked.
4. The last section addresses entities within the drawing that have properties set to other than "BYLAYER" and have the property not according to the standards. Changing the Layer property will not correct the entity to bring it into compliance with the standards.

CORRECTION REPORT: Excel Spread Sheet List of Non Compliant Entities

	C	D	E	F	G	H	I
1							
2	DRAWING NAME:		Arch_door_Not_OK2_14.dwg				
3	DRAWING PATH:		L:\tsws_ACAD\TSWS_Checker\DWG_Test				
4	DISCIPLINE:		ARCH				
5	DRAWING TYPE:		Floor Plan				
6	Date Drawing Checked:		8/22/01				
7	Layer Naming Convention:		AIA				
8	CADD Version:		14				
9							
10	Layers Found that only partially comply with the Standards						
11	(at least one property does not comply with the Standards)						
12	Layer Name	Standards Color	Standards LineType	Standards Weight			
13	A-STAT-DEMO		5 Continuous	NA			
14	A-STAT-FUTR		5 Continuous	NA			
15	A-STAT-MOVE		5 Continuous	NA			
16	A-STAT-NICN		5 Continuous	NA			
17	A-STAT-RELO		5 Continuous	NA			
18	A-STAT-TEMP		5 Continuous	NA			
19	A-WALL-CNTR		5 Continuous	NA			
20	A-FLOR-OVHD		5 Continuous	NA			
21	A-COLS-ENCL		5 Continuous	NA			
22	A-ANNO-NPLT		5 Continuous	NA			
23							
24	Layer Names Found that do not match with Standards Layer Names						
25	Layer Name						
26	A-STAT-PHS						
27							
28	Entities Found that only partially comply with Standards						
29	(at least one property does not comply with the Standards)						
30	Layer Name	Standards Color	Standards LineType	Standards Weight	Entity Type	Handle	ObjectID
31	A-DOOR-FULL		6 Continuous	35	Line	8C	96405344
32	A-DOOR-IDEN		3 Continuous	25	Polyline	8F	96405368
33							